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Mary K. Nguyen  
*Portland State University*

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# **Green Buildings, Corporate Social Responsibility, and Stock Market Performance**

by

Mary Nguyen

An undergraduate honors thesis submitted in partial fulfillment of the

requirements for the degree of

Bachelor of Science

in

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and

Finance and Supply & Logistics Management

Thesis Adviser

Dr. Julia Freybote

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# INTRODUCTION

Corporate Social Responsibility (CSR) has become an important item on the corporate agenda (Aho, 2013; Orlitzky, Siegel and Waldman, 2011; Laszlo, 2008; Esty and Winston, 2006). It incorporates environmental, social, and governance risks and issues in a firm's decision making processes, strategies, and operations. CSR can include commitments and activities pertaining to health and safety, environmental stewardship, labor rights, corporate governance and ethics, industrial relations etc. Previous studies have found that CSR-strategies can affect consumer attitudes (Tran, 2009), employee performance (Temmink, 2010), cost structure and corporate image (Eichholtz, Kok and Quigley, 2010). However, previous studies neglect the importance of green buildings –defined as buildings with LEED or Energy Star certifications– as a CSR tool. This negligence is surprising, considering fixed assets are one of the largest items on the balance sheet and income statement, have a long-lasting impact, and represent a tremendous financial investment. Additionally, previous research fails to address the impact of green building practices on corporate stock market performance and growth expectations of shareholders. In this thesis, the research question to be investigated is “How does investment in green buildings as part of a CSR agenda affect stock market performance?” Companies that include green buildings in their CSR strategy are expected to have a higher stock market performance for the following reasons: Firstly green buildings are more efficient in their operation and reduce costs which improves the cost structure of companies and secondly green building investments signal a commitment to CSR which in turn positively affect consumer, employee and other stakeholder attitudes towards the company (McAuley, 2008).

The research question will be examined using qualitative analysis in the form of a literature review. It is structured as follows: First, corporate social responsibility will be described as corporate strategy in general. Second, the role of green buildings will be discussed as a vital part of corporate social responsibility and corporate financial strategy. Lastly, the impact of CSR strategies and green buildings on stock market performance will be investigated. To investigate this hypothesis, the Business Source Premier and Google Scholar will be used to conduct a review on a number of finance, strategic management, sustainability and real estate journals.

## **LITERATURE REVIEW**

### **Corporate Social Responsibility**

The definition of corporate social responsibility remains contested. Some define corporate social responsibility as “actions that appear to further some social good, beyond the interests of the firm and that which is required by law” (McWilliams & Siegel, 2001). Social good can be actions such as supporting education, donating to charity, making environmentally friendly decisions and more. Others believe that the role social responsibility of business is to maximize shareholder wealth (Friedman, 1970; Orlitzky, Siegel, & Waldman, 2011). If companies are profitable, their profits will contribute to the overall economy, and consequently trickle down to the rest of the population. Many scholars have adopted Archie Carroll’s pyramid of corporate social responsibility, which suggests that there are four types of business social responsibilities: economic, legal, ethical and philanthropic (Carroll, 1991).

**Figure 1 – Carroll's Pyramid of Corporate Social Responsibility**



Source: Carroll (1991, p. 42)

With Carroll's pyramid, the economic and legal responsibilities of a corporation are required for any type of business. The ethical and philanthropic responsibilities are desired or expected responsibilities of a corporation. At the economic and legal level, the responsibilities of a corporation are predominantly to its primary stakeholders, which include the shareholders, owners, and employees. At the ethical and philanthropic level, the responsibility of a corporation expands to its secondary stakeholders, which includes the public interest. In all definitions, corporate social responsibility involves corporations contributing to society. The expected contribution can vary from making money, to community involvement, to environmental or social justice.

The inconsistencies in the definition of corporate social responsibility makes it difficult to measure and compare across different rating systems. Although the definition of corporate responsibility remains unclear, it is generally agreed upon that CSR aims to do some form of good - if not for the world, then at least for the corporation. For the purpose of this research,

Carroll's pyramid of corporate social responsibility will be utilized as the definition of corporate social responsibility because it takes secondary stakeholders into consideration.

Corporate social responsibility broadens the list of relevant stakeholders in a project. Many firms are being pressured by stakeholders to be socially and environmentally responsible. Thus, one rapidly growing form of CSR is sustainable and responsible investment (SRI). SRI includes socially positive investments that are engaged in environmental actions and corporate governance. In 2012, the total amount of SRI assets was \$3.74 trillion. This is a 22% increase since year end 2009. Thomas Reuters Nelson reported 11.3% of the \$33.3 trillion total assets under management in 2012 as assets engaged in SRI (US SIF, 2012). The challenge for many companies is remaining economically competitive while becoming socially responsible (Orlitzky et al., 2011). However, some companies have also been able to use CSR to help them gain additional revenues in the long run. Social investment can be a strategic investment that allows the company to obtain additional benefits like improving reputation, and offering differentiated products that come at a premium price and larger quantity (Husted & De Jesus Salazar, 2006). According to Orlitzky, there have been two empirical examples of evidence in support of strategic leadership and corporate social responsibility. The first evidence was found in research by Orlitzky, Schmidt and Rynes (2003) and shows that if leaders consider the concerns of multiple stakeholders in their decision making, they are more likely to pursue long-term reputation issues than short-term returns on CSR investments. The second evidence in a study by Sully de Luque et al. (2008) found that leaders who balance the needs of multiple stakeholders are believed to be more inspirational by their followers. This perception results in greater effort from followers and increasing firm financial performance. However, leaders who put more priority on economic factors in their decision-making were not seen as inspiring. Their firms did

not perform as well financially (Orlitzky et al., 2011). These findings suggest that focusing on long-term returns and values will be more beneficial to corporations. A company that effectively manages governance, legal, social environmental and financial issues can improve market stability.

## **Green Building Practices and CSR**

### **Real Estate in the Corporate Environment**

Real estate strategy has often been overlooked by businesses, even though more than 25% of corporate assets are in real property and occupancy costs represent more than 40% to 50% of net operating incomes (Nourse & Roulac, 1993). In a 2002 survey of corporate real estate managers by Gibler, Black and Moon, respondents ranked meeting workplace needs for business growth, meeting individual needs of business operating decisions and minimizing the operating expenses of the portfolio as their top objectives. The lowest ranked objectives had to do with flexibility and productivity. These results indicate that corporate real estate managers have been focusing on lowest cost strategies instead of productivity and flexibility.

However, a strong real estate strategy can be an invaluable addition to a business strategy. Real estate can impact the production, service, or sales through its location, its ability to cultivate integration, minimize the amount of space per worker or capital, external appearances, etc. According to Nourse and Roulac (1993), there are eight real estate strategies to consider. Two real estate strategies that focuses on reducing costs in the long run include minimizing the cost of occupancy and building structures that are adaptable to multiple uses. To retain and utilize workers to their full capabilities, two real estate strategies include choosing the proper location and amenities to promote human resources, and facilitating the managerial process and knowledge work. If a corporation wants to orient to the customer, they



could utilize the physical image of the building to entice the customer and promote a marketing message, use high traffic locations to attract customers, and select locations and building designs that are convenient to both. In order to capture the real estate value of business, a corporation could own surrounding land or obtain lease discounts because their building has an external effect on the owner's profits (Nourse & Roulac, 1993).

### Green Buildings and Eco-Certification

As of 2010, U.S. buildings account for 40% of the U.S.'s carbon dioxide emissions, and 7.4% of the world's carbon dioxide emissions. U.S. commercial buildings alone (excluding emissions of buildings-related energy consumption in the industry sector) accounted for 18% of the U.S.'s carbon dioxide emissions and 3.4% of the total global emissions (D&R International, 2012). In 2010, the United States population accounted for approximately 4.5% of the world's population (U.S. Census Bureau, International Database). These statistics show us that although the U.S. consists of a small portion of the world's population, it emits 1.64 times the amount of carbon dioxide per person. Since commercial buildings have a huge impact on the carbon footprint of the United States, people are increasingly expecting corporations to minimize their impacts. One way to decrease a corporation's carbon footprint is to invest in green buildings. Green management allows for a triple bottom line – environmental benefits, positive economic effects, and a good reputation with society (Tran, 2009).

Many customers are willing to pay the extra price for environmentally conscious buildings. In 2012, 55% of American adults reported that they would be more likely to purchase a product or service from a company that is environmentally friendly (See Appendix A) (Fiona O'Donnell, 2013). There are also an increasing amount of institutional investors, like CalPERS in the U.S., Universities Superannuation Scheme in the United Kingdom, ABP and

PGGM in the Netherlands, and AP7 in Sweden, that are specifically committing capital to companies that show socially and environmentally responsible investment (Guenster, Bauer, Derwall, & Koedijk, 2011).

Green buildings can lead to many different economic and environmental benefits. Investments in energy efficiency during construction or renovation may save current energy, water, and waste disposal resources, decrease other operating costs, and insure against future energy price increases (Eichholtz, Kok, & Quigley, 2010). Improved indoor environmental quality is hard to measure, however there is popular belief that green buildings results in high employee productivity. Green buildings can also provide more intangible benefits. They are a great image of social responsibility and can gain favorable corporate reputations, and can potentially be more valuable than standard buildings (Eichholtz et al., 2010). Because of this, green buildings can be utilized as both a real estate strategy and a corporate social responsibility strategy. Thus, green-building strategies should be imperative to corporations (Temmink, 2010).

### *LEED and Energy Star Certification*

In order to claim tax breaks for green buildings, corporations must “prove” their green building status through either the Leadership in Energy and Environmental Design (LEED) Green Building Rating System or the Energy Star certification.

In 1998, the United States Green Building Council (USGBC) developed the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. LEED is a rating system for developing high-performance, sustainable buildings. The LEED certification system consists of a few different rating systems including new construction, existing buildings, commercial interiors, core and shell, and homes or neighborhood developments. Most LEED

certifications are under the LEED for New Construction (LEED-NC) rating system, which is for new buildings and major renovations (Fuerst, 2009). LEED recognizes building performance in sustainable site development, water savings, energy efficiency, materials selection, and indoor environment quality (Tran, 2009). Green buildings can be either LEED certified, LEED silver, gold or platinum certified, based on a point system.

The number of certified LEED buildings continues to increase exponentially. The figure below shows the growth of the amount of square feet in millions per year of LEED gold certified commercial office space between 2001 and 2010. As of May 2013 (as provided by USGBC), there are currently 44,270 LEED projects in the United States.

**Figure 2 LEED Gold Certified Commercial Office Space 2001-2010**



In addition to the LEED eco-label, Energy Star program is a system that assesses buildings' energy performance. The Energy Star program was begun in 1992 by the US Environmental Protection Agency (EPA) and US Department of Energy. It was intended to be a voluntary labeling program with goals of reducing greenhouse gas emissions. Energy Star was originally applied to computers and computer equipment and was later applied to office equipment and other appliances. In 1993, the Energy Star program was extended to buildings constructed using energy efficient methods. Nonresidential buildings can receive Energy Star certification provided that the source energy a building uses achieves benchmark levels and is certified by a licensed professional engineer. The benchmark is aimed for the top quarter of comparable buildings in terms of source energy efficiency (Eichholtz et al., 2010). Because the Energy Star certification is a relative score that only consists of the top 25% of comparable buildings, it could become more difficult to achieve than the LEED certification. More than a dozen U.S. commercial property types are eligible for Energy Star certification including K-12 schools, offices, senior care communities, worship facilities, bank branch, barracks, financial offices, supermarket or grocery stores, wholesale club or supercenter, hospitals, medical offices, hotels, residence halls or dormitories, courthouses, wastewater treatment plants, retail stores, data centers, distribution centers, non-refrigerated warehouses and refrigerated warehouses. At the end of 2012, the EPA reported more than 8,200 Energy Star certified business buildings and plants for a total of more than 20,000 facilities.

### *Economic Benefits of Green Buildings*

Green buildings generally require a bit of upfront investment. However the economic benefits of green buildings in the long run may be worth this cost. Studies have suggested that the initial 2% upfront investment will generate a return ten times higher than the initial

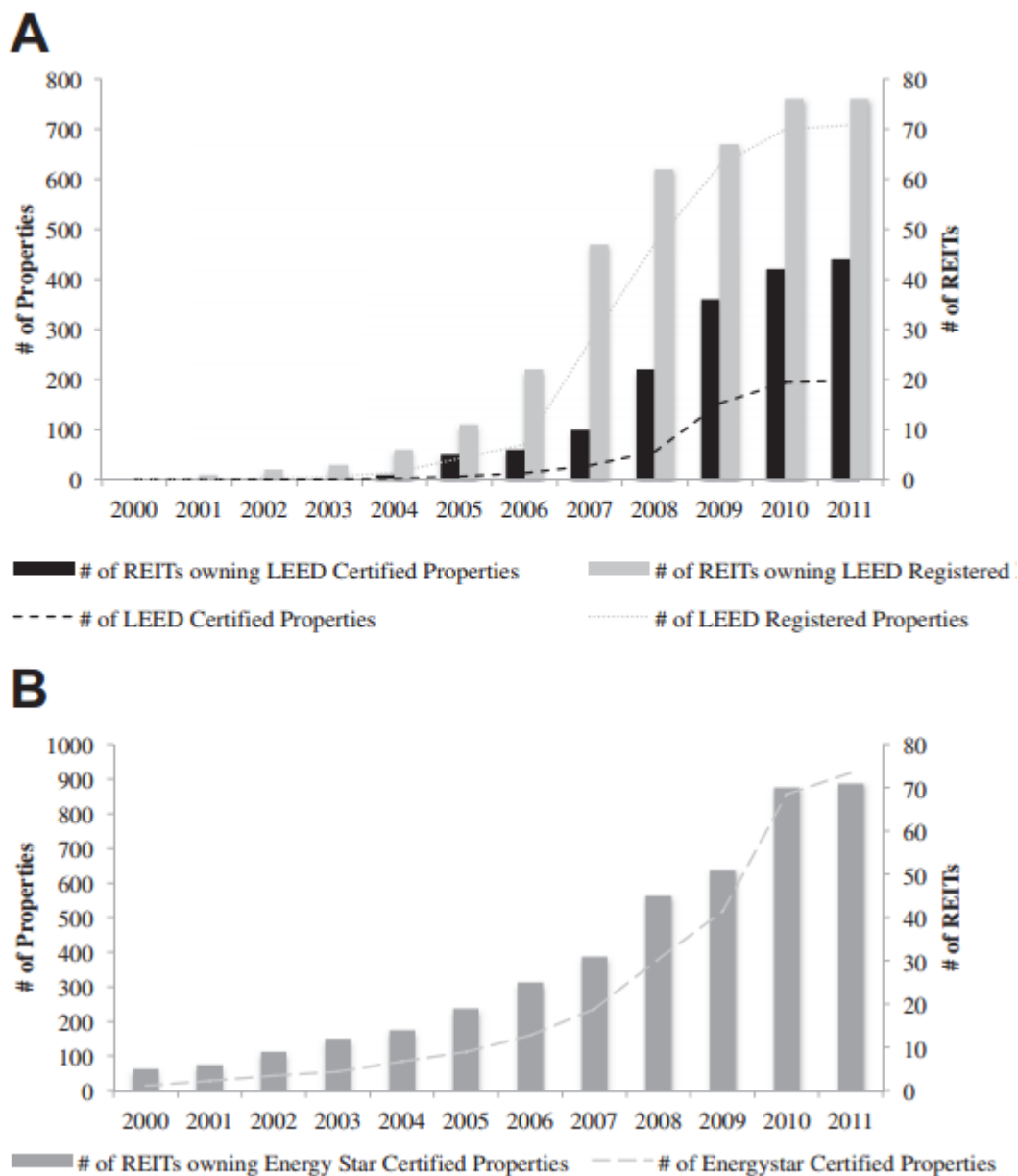
investment over the life cycle of the building (Kats, Leon, & Adam, 2003). A few different studies have been able to show the economic value of green buildings over time. In 2008, a study on 10,000 properties showed that there was an effective rental premium of 6% and selling premium of 10% for green office buildings (Eichholtz et al., 2010). In a study of 335 green and 1114 non-green buildings, Pivo and Fisher found that green buildings had 5.9% higher net income, 9.8% fewer utility expenses, 4.8% higher rents, and 13.5% higher market values (Popescu, Bienert, Schützenhofer, & Boazu, 2012). Another study by McGraw-Hill looked into the payback period for green investments and operating costs. It was found that over a one year and a five year period, new green buildings decreased operating costs by 11% and 28% respectively while green retrofit decreased operating costs by 11% and 14%. It took 7 years for new green buildings and 4 years for green retrofit to pay back their initial investment (Construction, 2013). In 2008, Energy Star certifications provided an increase of 5.76% on selling prices while LEED certifications provided an increase of 9.94% (Miller, Spivey, & Florance, 2008). These findings indicate that although it will take a couple years before the initial investment of going green will payback, in the long run it can dramatically decrease operating costs and increase rent and value of the building.

### *Green Real Estate Investment Trusts*

As the number of LEED and Energy Star certified buildings increases, the amount of investment in those buildings has also slowly risen. A survey by Pivo (2008) surveyed 200 CEOs of Real Estate Investment Trusts (REITs), real estate operating companies and property development companies and found that 40% of those companies have invested in green buildings (Pivo, 2008). A more recent study by Eichholtz, Kok and Yonder (2012) found that the first investment in LEED registered property by a REIT was in 2001 and since then has increased to

708 LEED registered properties as of August 2011. It is important to note that LEED registered properties are not LEED certified yet and are expected to be evaluated and certified at a later time. The study found that it took an average of 1.7 years for 70% of LEED registered properties owned by REITs to be certified. For Energy Star certified properties, 71 REITs own 919 Energy Star certified properties as of August 2011 (Eichholtz, Kok, & Yonder, 2012).

**Figure 3 - Green buildings in the portfolio of US REITs from 2000 to 2011**



Source: Eichholtz, Kok, and Yonder (2012)

As of November 2012, NAREIT, FTSE and USGBC are jointly developing a green property index for REITs. The green property index will be based on the benchmark set by the FTSE NAREIT Index Series and use LEED and Energy Star ratings from USGBC. The index aims to give investors a standardized method to measure the risks and rewards of green property. It will also give investors new ways to incorporate sustainability into their portfolios (Thomas, 2012).

### **Stock Market Implications of CSR Strategies**

Reputation or brand equity, is based on values such as trust, credibility, reliability, quality and consistency. Even though some firms do not have direct retail exposure, their business models and reputation concerning CSR issues could impact the value of the firm. In extremity, BP's oil spill in the Gulf of Mexico and Goldman Sach's global financial crisis have shown how the lack of CSR strategies can impact a company's profits (Chen, 2012). However, previous research has also shown that positive environmental information has a weaker correlation to stock price increase than negative news on a stock price decrease (Klassen & McLaughlin, 1996). A possible explanation for this relationship could be that negative environmental news generally causes adverse financial impacts due to cleaning costs, litigation, reputational damage and is more present in the media. These financial impacts are clearly reflected in financial performance. Contrastingly, positive environmental actions usually provide intangible benefits, which are less visible in financial performance. Corporate social responsibility itself is very broad and encompasses a wide variety of strategies, which is why many studies narrow down a specific type of strategy in their analysis.

Many different methods have been utilized in past research to measure a firm's value. A number of studies have used accounting data to measure firm performance, with return on asset (ROA) being the most commonly used accounting based measurement. In past studies, ROA has been shown to have positive correlation to environmental performance. Returns were even higher in high-growth industries (Russo & Fouts, 1997). In a different cross-sectional analysis, it was found that eco-efficiency and ROA were positively related, and possibly asymmetric (Guenster et al., 2011).

Other studies have also found ROA and other financial measures to be related to environmental performance however they are more doubtful whether environmental performance is the cause of these increases in financial performance (Waddock & Graves, 1997; Hart & Ahuja, 1996). Additional research may be needed on "reverse causality" to see if profitable companies tend to invest in more pollution prevention and emission reduction (Hart & Ahuja, 1996 ). A meta-analysis by Jayachandran, Kalaignaman, and Eilert (2013) looked at firm valuation and its effect on Product Social Performance (PSP) actions, includes avoiding ethical and regulatory problems, and Environmental Social Performance (ESP) actions, which include decreasing the impact on the environment and sustaining the environment. One of the measurements for firm valuation included ROA, and they found that PSP has positive interactions with ROA while ESP has negative interactions with ROA (Jayachandran, Kalaignanam, & Eilert, 2013). A possible reason for the negative ESP is that the investment has not paid off yet.

Comparatively to accounting data, research has generally shown a positive but weak relationship between Tobin's  $q$  and corporate social responsibility related actions. Tobin's  $q$  is a ratio between the market value and replacement value of an asset, and serves as a proxy for a



company's valuation that reflects the intangible value of a company (Guenster et al., 2011). Jayachandran, Kalaignaman and Eilert (2013) found that PSP has a significant positive effect on Tobin's  $q$  in S&P 500 firms and Domini 400 firms. Relatively, ESP does not have a significant impact on Tobin's  $q$  (Jayachandran et al., 2013). A study by Konar and Cohen (2001) found that a 10% reduction in the emission of toxic chemicals resulted in market value increasing by \$34 million. Because of the reduction in toxic chemical emission, Konar and Cohen suggest that these firms were faced with less environmental lawsuit and cleanup costs, resulting in higher Tobin's  $q$  (Konar & Cohen, 2001). In a different study that looked at eco-efficiency and firm valuation as measured by Tobin's  $q$ , the trend shows that environmentally strong companies originally did not trade at a premium to those who were not. On the other hand, after looking at the same trend over a longer duration, the valuation difference began to widen. This trend suggests that the eco-efficient firms were initially undervalued (Guenster et al., 2011).

Other studies using Tobin's  $q$  as a measurement of firm valuation have found conflicting data. King and Lenox (2002) used Tobin's  $q$  and ROA to measure financial performance against firm emissions. They found evidence that waste prevention and financial performance were positively associated but there were no evidence that firms can profit from reducing pollution with other methods such as "end-of-pipe" pollution treatment (King & Lenox, 2002). A meta-analysis of the relationship between corporate social performance and corporate financial performance found results that indicated 58% of the relationships are non-significant relationships, 27% positive relationships and 2% negative relationships. 13% were not included in the results because they did not report sample size (Margolis, Elfenbein, & Walsh, 2009). Jayachandran, Kalaignaman and Eilert (2013) suggest that ESP is viewed as a

defensive strategy to prevent failure and that shareholders may view a high ESP as inappropriate use of profits, which would result in a lower Tobin's  $q$  (Jayachandran et al., 2013).

Alternatively to Tobin's  $q$ , stock returns have been used as a measurement of firm valuation. Orlitzky, Schmidt and Rynes (2003) conducted a meta-analysis of studies which showed that CSP is positively correlated with CFP. However CSP and CFP are more highly correlated using accounting based measures than market based indicators (Orlitzky, Schmidt, & Rynes, 2003). Socially responsible investments have also resulted in lower book to market ratios, indicating that SRI has an impact on stock returns (Galema, Plantinga, & Scholtens, 2008). In a study by Justyna and Wojciech Przychodezen (2012), it was found that corporate sustainability was strongly correlated with stock returns. An investment of \$1 in a portfolio of companies with corporate sustainability in 2005 would have grown to \$2.59 by 2010. A \$1 investment in the S&P 500 index would have grown by \$1.01 to \$2.01 in the same period. Companies that were involved in CSR strategies had lower daily stock volatility over the years 2006 to 2010 than the S&P 500 index. During the market crash in 2008, the S&P 500 index decreased by approximately 38.5% while the sustainable portfolio lost only approximately 30.8% (Przychodzen & Przychodzen, 2012). These numbers indicate that companies that implement sustainable strategies have less volatility than the S&P 500 index.

Similarly to accounting based measures and Tobin's  $q$ , not all CSR strategies produced positive stock market returns. A study by Luo and Bhattacharya (2006) found that the financial returns to CSR strategies varied. Companies with higher product quality had positive returns to CSR. Luo and Battacharya also attribute better customer satisfaction as a factor in increased market returns. Companies that lacked innovation saw a decrease in market return with CSR

initiatives (Luo & Bhattacharya, 2006). A study by Fisher Vanden and Thorburn (2011) suggests that environmental investment may not be welcomed by all investors. Their study analyzed stock market reaction relating to news about Climate Leaders program and Ceres, two voluntary corporate environmental programs related to climate change. The study documented a decline in stock prices of firms joining Climate Leaders and Ceres or when they announced their goal for reduction of greenhouse gas emissions as part of the Climate Leaders program. (Fisher-Vanden & Thorburn, 2011). This indicates a possible conflict of interest between stakeholders and environmentally responsible investments.

Recent research has also begun to look at green REITs and financial performance. The financial performance of green REITs can be affected by the financial and CSR benefits that come with investment in green buildings. Because there has been an increasing amount of investment in green buildings by REITs, they offer an alternative method to track the performance of investment in green properties. A study by Sah, Miller and Ghosh (2013) found that REITs with green initiatives had a positive impact on valuation as measured by Tobin's  $q$ . Between 2005 and 2010 green REITs produced a higher annual return of 5.68% than their non-green counterparts (Sah, Miller, & Ghosh, 2013). Similarly, Eichholtz, Kok, and Yonder (2012) found that if a REIT increases their share of green properties by 1%, their ROA would increase by approximately 3.5% for LEED properties and 0.31% for Energy Star certified properties. When comparing green REITs to stock performance, the same study found no correlation with green REITs and returns. Instead, they found that a 1% increase in the share of green properties resulted in a decrease in market beta by 0.14 for LEED properties and around 0.01-0.03 for Energy Star certified properties (Eichholtz et al., 2012). The decrease in market beta indicates a

slightly lower volatility with green REITs and because green properties have lower occupancy risks and energy price fluctuations.

## **CONCLUSIONS**

The current literature on the effects of green buildings and CSR on market value has been inconsistent. Although green REITs have seen increases in returns and decreases in volatility compared to their non-green peers, Eichholtz et al. (2012) found no correlation between green REITs and stock performance. CSR-related strategies have generally shown a positive relationship with different measurements of firm value, however there some studies have shown the opposite (Fisher-Vanden & Thorburn, 2011). The relationship between CSR related strategies and market value is too weak to determine any conclusions or if there is any correlation at all (Waddock & Graves, 1997; Hart & Ahuja, 1996; Margolis, Elfenbein, & Walsh, 2009). With the conflicting current literature at hand, future research may be needed to clarify the relationship between CSR, green buildings and market performance, if there is a relationship at all. It would also be interesting to see future research determine what type of CSR strategy will yield positive returns.

There are also many limitations with the methods and measurements used to analyze the relationship between CSR and market performance and green buildings and market performance. There should also be a standardized method to measure corporate social responsibility. CSR and CSP have been used interchangeably in many different empirical studies, though the two terms mean different things. Green REITs are a good indicator of non-green portfolios and green portfolios, though most green REITs do not consist solely of green properties. The methods of firm valuation have also differed across different studies. Although ROA can effectively be used

to measure returns, it does not reflect intangible assets very well. Accounting measures also tend to look backwards at past performance while stock market value looks forward toward future gain. This difference in the two might explain why a few studies noted accounting based measures had a greater impact or correlation with CSR related strategies than with market value indicators (Jayachandran, Kalaighnam, & Eilert, 2013; Orlitzky, Schmidt, & Rynes, 2003; Eichholtz, Kok, & Yonder, 2012). Because green buildings require a large initial investment before they can increase profits greatly overtime, and because CSR strategies tend to impact the future profitability more than current profitability, using a stock market value measurement may be more relevant to gauge a value of a firm. With that said, stock market value is not a perfect measurement either. It depends on shareholder expectations of the company and its future earnings. Sometimes these expectations are undervalued or overvalued.

The definition of CSR remains unclear, making it difficult to compare research that use different measurements for CSR-related activity with different variables. However, green buildings should also be included as part of any CSR strategy. Companies engaging in green management operate more efficiently, and promote human resources and marketing messages but they also contribute to society by decreasing their impact on the environment. There are also intangible benefits such as increased reputation with green buildings. Based on the literature review, it is expected that companies that invest in green buildings as a CSR strategy will be rewarded by stock market investors. The investment in green buildings does not only affect the corporate cost structure and improves the future earnings potential of a firm, but can also to have a positive impact its stakeholders. As a consequence, it is expected that companies with green building investments will have a significantly higher price-earnings (PE) ratio and market to book (MB) value than firms without these investments. Subsequent research may be able to

examine variations in the relationship of CSR, green buildings and firm valuation and clarify whether or not this hypothesis holds true.

## APPENDIX

### Appendix A

Attitudes toward the Environment Attitudes toward the environment, by household income, August 2011-August 2012

	All	<\$25K	\$25K-49.9K	\$50K-74.9K	\$75K-99.9K	\$100K-149.9K	\$150K+
Each of us has a personal obligation to do what we can to be environmentally responsible	73	66	72	75	76	75	78
I would buy eco-friendly products if they were less expensive	64	57	63	65	69	66	69
Companies should help consumers become more environmentally responsible	62	58	59	62	64	63	67
I believe that companies following environmentally sound practices find that it is good for business	61	56	57	63	64	64	65
I am more likely to purchase a product or service from a company that is environmentally friendly	55	53	54	54	55	55	58
It is important to me that others see me as being environmentally conscious	47	46	46	46	48	46	48
I am more likely to buy a product from a company that uses environmentally friendly methods of advertising	38	39	38	36	39	36	38
Eco-friendly products are higher quality products	27	31	28	26	27	25	26
I actively tell companies to stop sending me catalogs via the mail to protect the environment	25	26	23	25	25	22	28

Source: Source: Mintel/Experian Simmons NCS/NHCS: Summer 2012 NHCS Adult Full Year—POP

#### Surveyed Group Information:

	All	<\$25K	\$25K-49.9K	\$50K-74.9K	\$75K-99.9K	\$100K-149.9K	\$150K+
All adults aged 18+	24,545	3,938	5,520	4,477	3,099	3,665	3,846

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